

WHAT IS CLAIMED IS:

1. A method of cache intervention comprising:
reading a memory block into a first cache from a main memory a first time;
tagging the memory block in the first cache as non-modified;
detecting a read request associated with the memory block that hits an agent associated with a second cache; and
providing a copy of the memory block from the first cache responsive to the read request.
2. A method as defined in claim 1, wherein tagging the memory block in the first cache as non-modified comprises tagging the memory block in the first cache as exclusive.
3. A method as defined in claim 1, wherein tagging the memory block in the first cache as non-modified comprises tagging the memory block in the first cache as shared.
4. A method as defined in claim 1, further comprising:
tagging the memory block in the first cache as shared responsive to the read request; and
tagging the memory block in the second cache as shared .

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5. A method as defined in claim 1, wherein detecting a read request comprises snooping a bus.

6. A method as defined in claim 1, wherein detecting a read request comprises accessing a cache directory.

7. A method as defined in claim 1, further comprising:
detecting a read request associated with the memory block that hits an agent associated with a third cache;
determining an arbitration winner cache between the first cache and the second cache if the memory block in the first cache is tagged as non-modified and the memory block in the second cache is tagged as non-modified;
copying the memory block from the arbitration winner cache to the third cache; and
tagging the memory block in the third cache as non-modified.

8. A method as defined in claim 7, wherein determining an arbitration winner cache comprises selecting a directory entry associated with one of the first cache and the second cache.

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9. A method as defined in claim 7, wherein determining an arbitration winner cache comprises usage of a back-off based arbitration mechanism.

10. A multi-processing computing device comprising:
a first processing agent including a first processor and a first cache;

a second processing agent including a second processor and a second cache, the second processing agent being coupled to the first processing agent via a cache interconnect; and

a main memory coupled to the first processing agent and the second processing agent via a main memory interconnect, the first processing agent to (i) read a memory block into the first cache from the main memory via the main memory interconnect, (ii) tag the memory block in the first cache with an exclusive tag, and (iii) supply the memory block tagged exclusive to the second cache via the cache interconnect.

11. A multi-processing computing device as defined in claim 10, wherein the first processing agent is to detect a read request associated with the memory block by the second processing agent and retag the memory block in the first cache as shared in response to detecting the read request.

12. A multi-processing computing device as defined in claim 11, wherein the first processing agent is to detect the read request associated with the memory block by snooping the cache interconnect.

13. A multi-processing computing device as defined in claim 11, wherein at least one of the first processing agent and the second processing agent are to supply the memory block tagged shared to a third cache via the cache interconnect.

14. A multi-processing computing device comprising:
a first processing agent including a first processor, a first cache, and a signal input, the first cache to store a memory block in a shared state;
a second processing agent including a second processor, a second cache, and a signal output, the second cache to store the memory block in the shared state, the signal output being coupled to the signal input;
and

a third processing agent including a third processor and a third cache, the second processing agent to supply the memory block tagged shared to the third cache, the second processing agent to prevent the first processing agent from supplying the memory block tagged shared to the third cache by asserting the signal output.

15. A multi-processing computing device as defined in claim 14, further comprising a logical OR unit, the logical OR unit including a first

OR input, a second OR input, and an OR output, the first OR input being coupled to the signal output of the second processing agent, the second OR input being coupled to the third processing agent, the OR output being coupled to the signal input of the first processing agent.

16. A multi-processing computing device as defined in claim 14, further comprising a logical OR unit and a fourth processing agent, the logical OR unit including a first OR input, a second OR input, and an OR output, the first OR input being coupled to the signal output of the second processing agent, the second OR input being coupled to the fourth processing agent, the OR output being coupled to the signal input of the first processing agent.

17. A computer comprising:

a first microprocessor including a first cache, the first cache to store a first copy of a memory block in a non-modified state;

a second microprocessor including a second cache; and

a main memory coupled to the first microprocessor and the second microprocessor, the first microprocessor to supply the second cache with a second copy of the memory block while the first copy of the memory block is in the non-modified state.

18. A computer as defined in claim 17, wherein the first microprocessor is to supply the second cache with the second copy of the

memory block while the first copy of the memory block is in one of an exclusive state and a shared state.

19. A computer as defined in claim 17, further comprising a main memory operatively connected to the first microprocessor and the second microprocessor by a main memory bus, the first microprocessor to directly supply the second cache with the second copy of the memory block while the first copy of the memory block is in the non-modified state.

20. A computer as defined in claim 19, further comprising:
a mother board coupled to the first microprocessor;
a hard drive coupled to the first microprocessor; and
a graphics card coupled to the first microprocessor.

21. A computer as defined in claim 20, further comprising:
an input device coupled to the first microprocessor; and
an output device coupled to the first microprocessor.

22. A computer as defined in claim 21, wherein the input device comprises at least one of a keyboard, a mouse, a track pad, an isopoint, a microphone, and a graphics tablet.

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23. A computer as defined in claim 21, wherein the output device comprises at least one of a display, a printer, a modem, a network card, and a speaker.

24. A method of cache intervention comprising:
storing a memory block in the first cache in a shared state;
detecting a read request associated with the memory block by an agent associated with a second cache while the memory block in the first cache is in the shared state; and
copying the memory block from the first cache to the second cache in response to detecting the read request while the memory block in the first cache is in the shared state.

25. A method as defined in claim 24, further comprising preventing a third cache from copying the memory block to the second cache.

26. A method as defined in claim 25, wherein preventing a third cache from copying the memory block to the second cache comprises asserting a "back-off" signal.

27. A method as defined in claim 25, wherein preventing a third cache from copying the memory block to the second cache comprises determining an arbitration winner cache represented in a cache directory.

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28. A method of cache intervention comprising:
storing a first copy of a memory block in a first cache in one of
an exclusive state and a shared state;
detecting a read request associated with the memory block by
an agent associated with a second cache; and
supplying the second cache with a second copy of the memory
block while the first copy of the memory block is in one of the exclusive state
and the shared state without accessing a main memory.

29. A method as defined in claim 28, wherein detecting a
read request associated with the memory block comprises snooping a bus.

30. A method as defined in claim 28, wherein detecting a
read request associated with the memory block comprises using a cache
directory.

31. A method as defined in claim 28, wherein supplying the
second cache with a second copy of the memory block while the first copy of
the memory block is in one of the exclusive state and the shared state
comprises supplying the second cache with the second copy of the memory
block while the first copy of the memory block is in the exclusive state.

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32. A method as defined in claim 28, wherein supplying the second cache with a second copy of the memory block while the first copy of the memory block is in one of the exclusive state and the shared state comprises supplying the second cache with the second copy of the memory block while the first copy of the memory block is in the shared state.

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